# FLEETLIFE

*Ogden Air Logistics Center*

# Fleet Management Software for Aircraft Structural Integrity (ASI) Sustainment and Operations

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OO-ALC/LACM

# Definition of ASI Fleet Management

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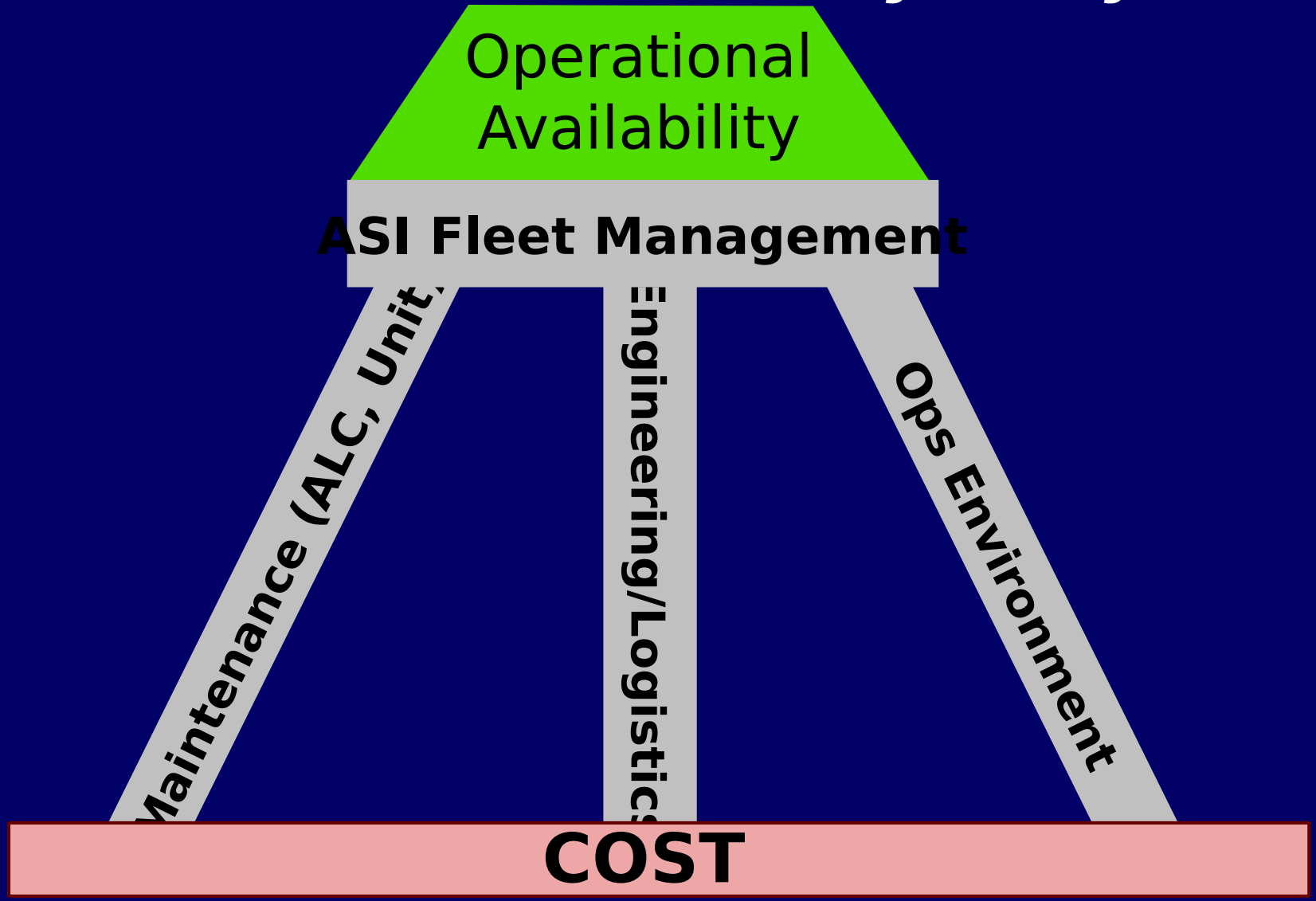

# The Operations and Maintenance Dilemma

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FLEET PERSPECTIVE

OLD

FLEET AGE

NEW

# The Engineering Support Dilemma

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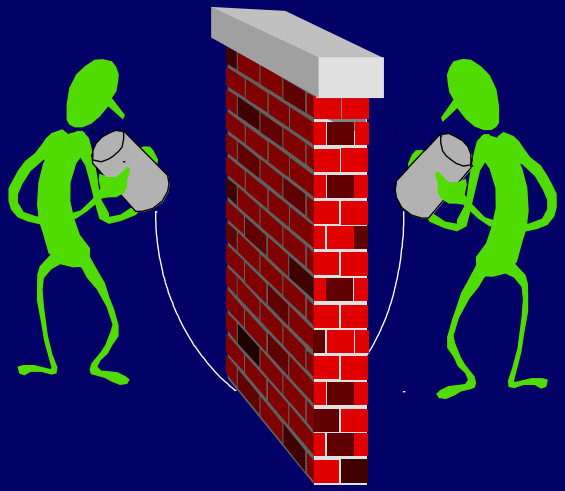
Engineering

Field



What is really happening out there?

Why isn't the depot helping us with our real problems?

# The ASI Management Dilemma

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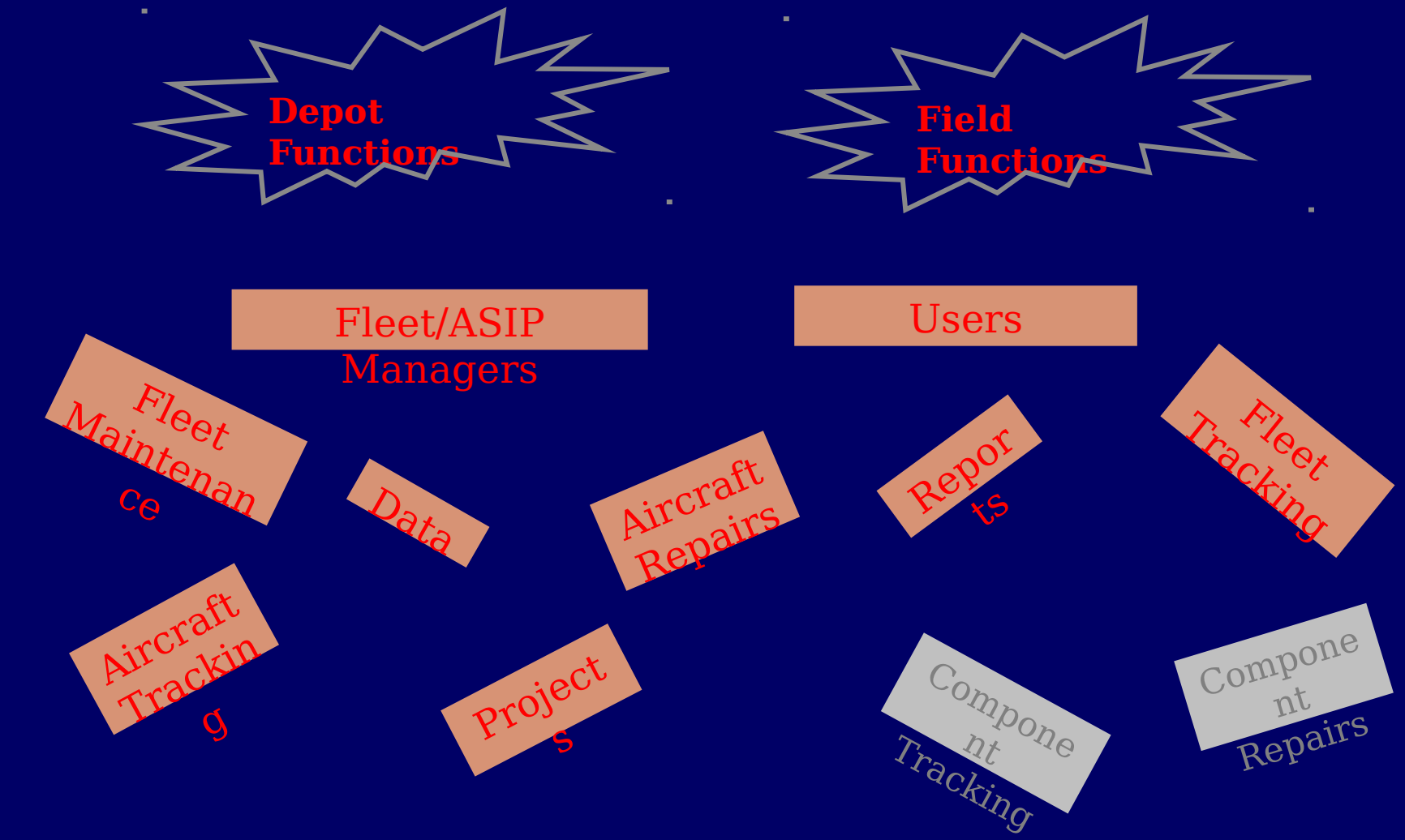
## *Disconnected Information Systems*



# The FLEETLIFE Concept

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- **Understand Fleet and Individual Aircraft (Tail Number) condition.**
- **Effective Use of and Integration of Existing USAF Databases (Seamless from Flight Line to the SPD)**
- **Individually Customize Application for Multiple Weapons Platforms**
- **Gather and Display Information in Clear Effective Terms**
- **Maximum use of COTS technology**

# The FLEETLIFE Idea

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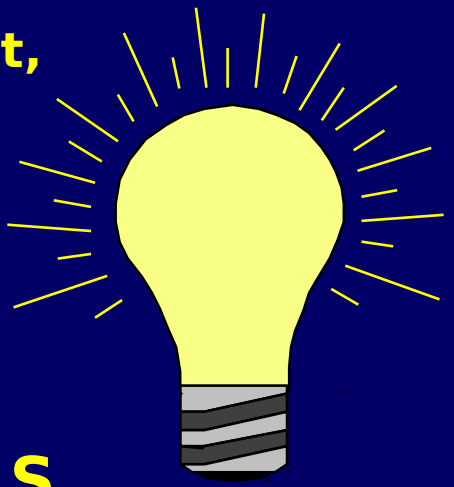
- **TOTAL PACKAGE APPROACH**

**All essential data and tools for fleet management, engineering support, and documentation are shared in one application**



- **IN-HOUSE DEVELOPMENT**

**Development accomplished by OO-ALC/TISMD, first phase funded by Navy AV-8B program**

- **PUBLIC DOMAIN ANALYTICAL TOOLS**

**Engineering analytical tools are public domain (AFGROW, RAPID, SAL) Future tools will be public domain or non-proprietary contractor developed**

# FLEETLIFE Information Management

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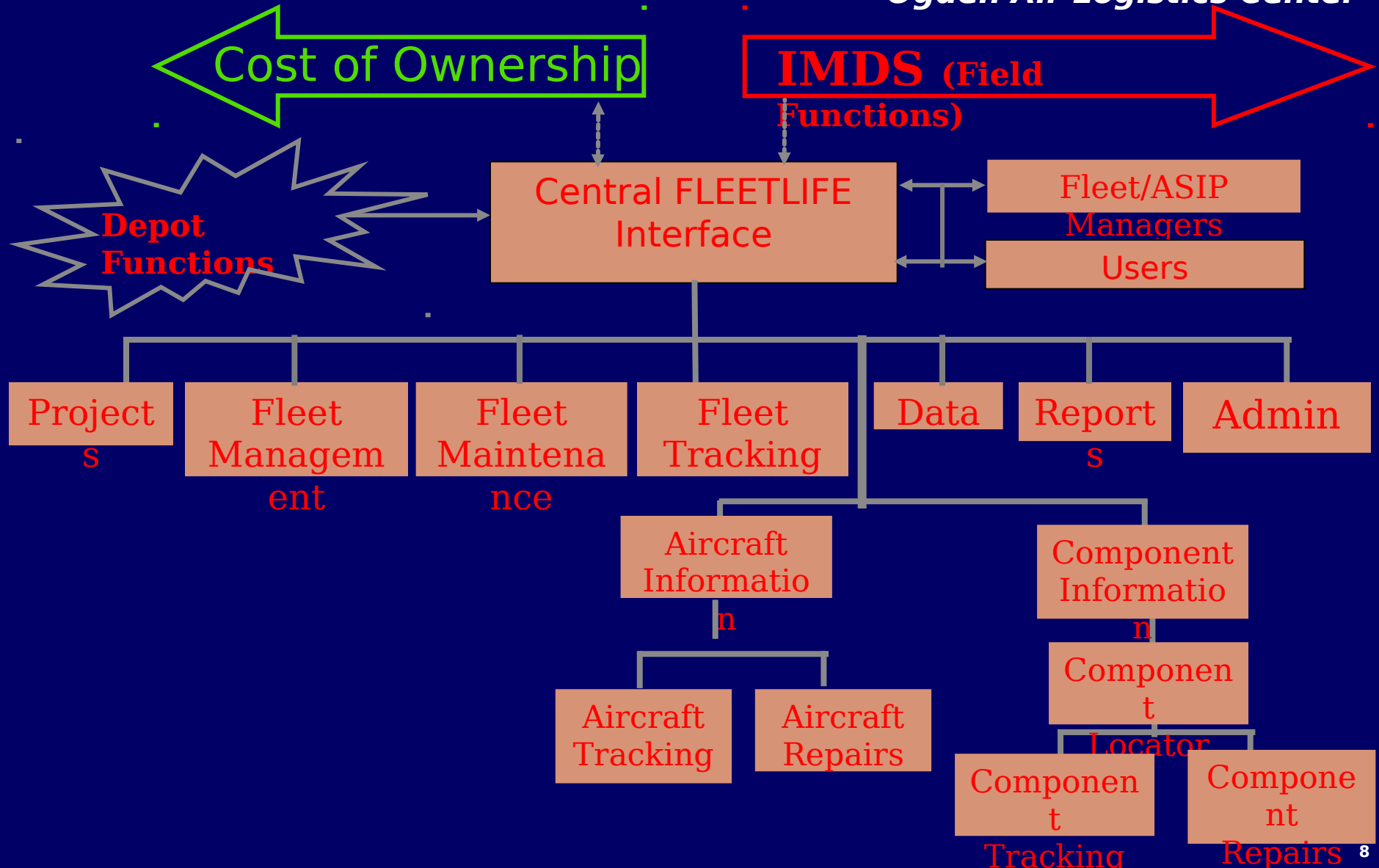

# The FLEETLIFE Architecture

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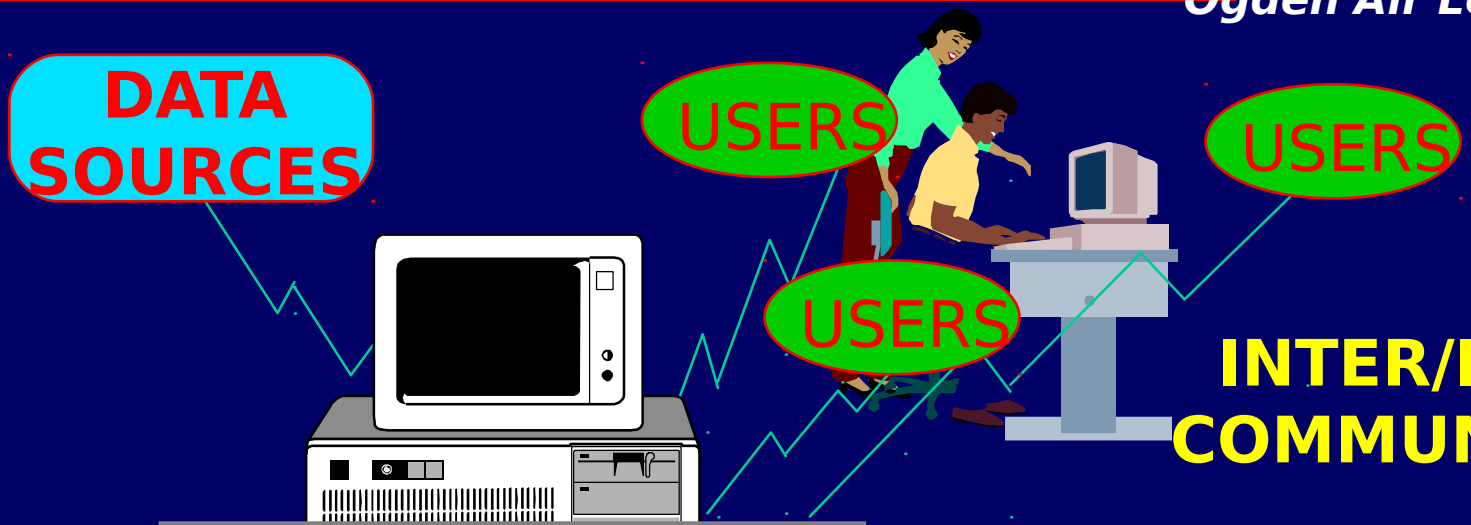


**INTER/INTRANET COMMUNICATIONS**

**FLEETLIFE**

**STANDARDIZED SOFTWARE INTERFACE**

**USER DEFINED PLUG IN SOFTWARE MODULES**

# Basic Program Contents

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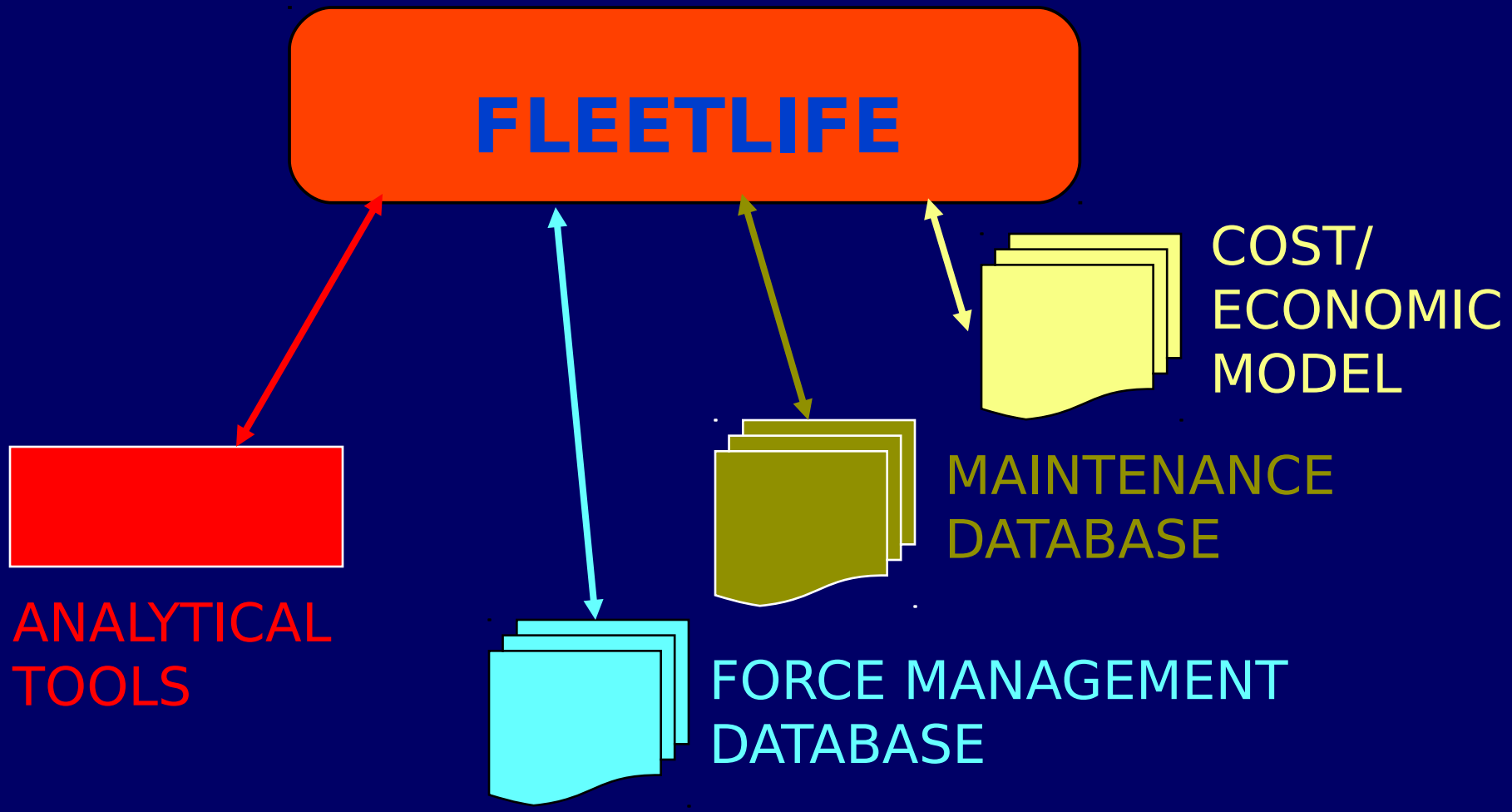

# Management and Engineering Tools



- **Structural Engineering Analysis Tools**
  - **AFGROW Crack Growth Analysis**
  - **Structural Analysis Library Tools**
  - **Corrosion Index Calculation**

- **Project Tracking**
  - **Comprehensive Aircraft/Component Repair Tracking**
  - **Complete Repair Cost Accounting**
  - **Project Level Documentation Accounting**
  - **Customized Structures and Deficiency Definition**

# Benefits to the USAF



## FLEET MANAGEMENT

- **Standardize and Streamline Information Exchange with Operations and Engineering Support Functions**
- **Enhanced Data Collection to Reduce Risk of Unexpected Structural Problems and Allow Proactive Vs. Reactive Fleet Management**
- **Provide a Sound and Archiveable Basis for Fleet Decisions**
- **Improve Definition Process for end of Economic Service Life**
- **Simplify management of Fleet Health Monitoring Information**

# Benefits to the USAF



## FLEET MANAGEMENT (cont.)

- Identify Frequently occurring Repair Hot Spots
- Identify High Repair Cost Structural Details
- Provide Trend Analysis to More effectively schedule Maintenance Actions
- Allow Fewer and More Pinpoint Inspections
- Develop Individual Aircraft Fingerprints
- Separate “Damage” Repairs vs. “Age” Repairs

# Benefits to the USAF

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**OPERATIONS**

- Improve Visibility of Overall Fleet/Aircraft Condition
- Improve Accuracy of Environmental and Flight Loads Effects
- Enhance Information Exchange among Support Functions
- Reduce Downtime Awaiting Engineering Disposition
- Reduce Unnecessary Maintenance Actions

**ENGINEERING SUPPORT**

- More Effective Use of Engineering Assets
- Allow for Rapid Training of New Engineers/Analysts
- Provide Complete and Consistent Engineering Background Data and Analysis
- Enhance Information Exchange between Support Managers and Operations Functions

# Current Development Status



- **System Requirements Defined**
  - **GAF Enhancements in work**
- **Database Architecture Defined and Developed**
  - **Migration to SQL**
- **Server/Client ( Internet Access )**
  - **Security Enhancements Defined**
- **Phase I Software Development Completed**
  - **See Development (www.fleetlife.hill.af.mil)**

# Future Development



- **Field Maintenance Data Interface**
  - **IMDS Data Retrieval**
  - **Automated Data transfer from existing AF Databases**
  - **Electronic -202 & -107 Engineering support request**

- **Enhanced Capabilities**
  - **Graphical Repair Location Tracking**
  - **Additional Engineering Analysis Tools, including Loads/Stress Spectrum Generation Tools**
  - **Corrosion Tracking and Analysis Tools**
  - **Cost of Ownership database interface**
  - **Complete Material Database/Interface**